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Superodontella euro n. sp.: a new species of Collembola (Odontellidae) from Luxembourg

by

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Abstract: *Superodontella euro* n. sp. is described from Luxembourg. The new species is morphologically closest to *S. conglobata* Jordana & Arbea, 1991 and *S. gisini* (Gama, 1961).

Résumé: *Superodontella euro* n. sp. est décrite du Luxembourg. La nouvelle espèce est morphologiquement proche de *S. conglobata* Jordana & Arbea, 1991 et de *S. gisini* (Gama, 1961).

Key words: Collembola, *Superodontella*, new species, Luxembourg.

We present a description of a new *Superodontella* species. Our study is based on material collected during the investigations of Collembola Poduromorpha in Luxembourg.

Superodontella euro n. sp.

Etymology: The new species has been found in a location most representative for the continent of Europe and its description coincides with the introduction of the common European currency, the euro.

Types: Holotype: male L-98-27/1, paratypes: females L-98-27/2 and L-98-27/4, juvenile: L-98-21/6 in: Institute of Systematics and Evolution of Animals, Polish Academy of Sciences, Kraków, Poland; male: L-98-21/3, female: L-98-27/5 in: Musée national d'histoire naturelle, Luxembourg.

Type locality: Luxembourg, Berdorf, Schnellert forest, near the rock and a dead beech, at the foot of *Ilex* sp., litter, November 9, 1998, leg. M. Cardew & E. Carrières.

Diagnosis: Habitus typical for the genus *Superodontella*, Stach 1949. Postantennal organ ameboid with four lobes. 5+5 eyes present. Buccal cone rather short. Short ordinary setae, formula of sensory setae s per half tergum: 022/11111. Microsensilla present on thoracic tergum II and III. Head without setae a0, d4, sd1 and sd2, seta c3 present. Thoracic tergum I with 4+4 setae, thoracic terga II and III with setae m1 and

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m3. Furca well developed with 5 setae on each dens. Mucro type of *Superodontella*. Tibiotarsi I, II and III with 16, 16 and 15 setae, respectively, of which setae A1 and A7 longer and very slightly capitated, seta M present. Subcoxae "2" I, II and III with 0, 2 and 2 setae, respectively. Each anal valve with three setae hr. Anal spines absent.

Description: Holotype (male) length 0.67 mm, paratypes (females) length 0.67-0.80 mm, paratype (male) length 0.7 mm, paratype (juvenile) length 0.49 mm. Colour in alcohol spotted pale bluish, ocular plate blue-black. Body integument strongly granulated.

Triangular antennae shorter than head (about 2/3 the length of head). Antennal segment I with 7 setae, antennal segment II and III with 10 setae each. Sensory organ of antennal segment III (Fig. 1.1) consisting of: two small bent internal sensilla, two small bent guard sensilla; ventral microsensillum present. Antennal segment IV with

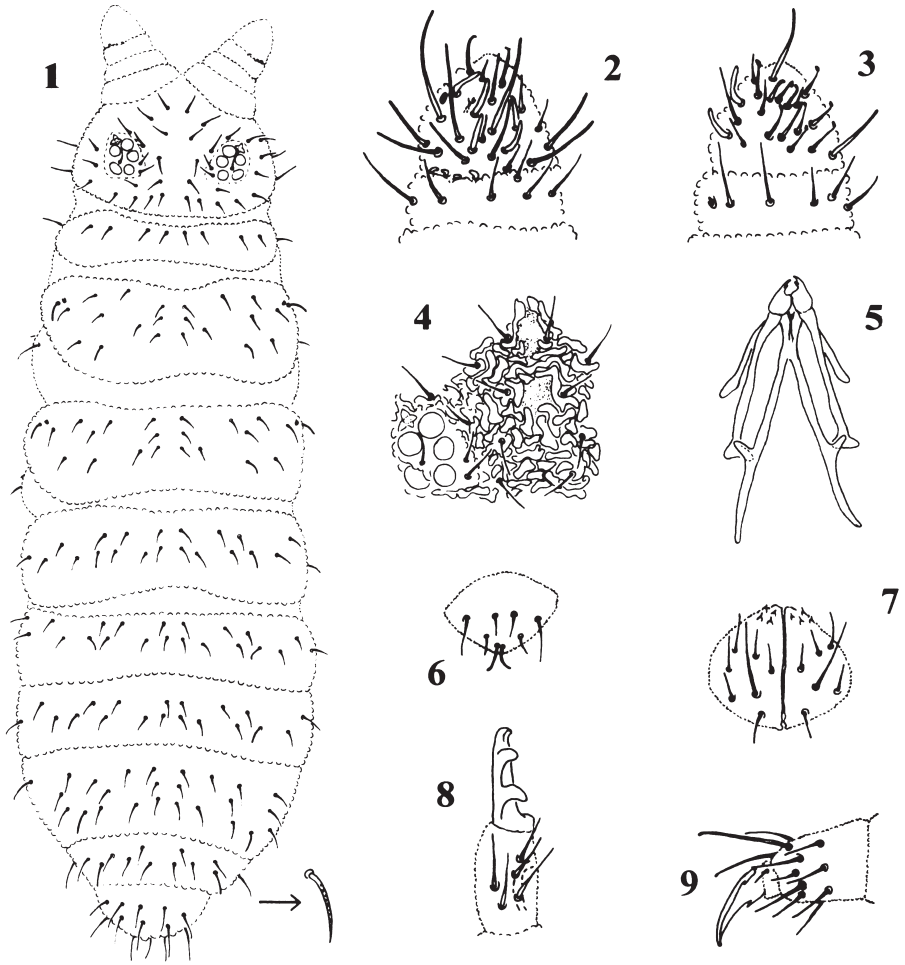


Fig. 1. *Superodontella euro* n. sp.: 1 - dorsal chaetotaxy; 2 - antennal segments III and IV, dorsal side; 3 - antennal segments III and IV, ventral side; 4 - postantennal organ and ocelli; 5 - maxilla and mandible; 6 - labium; 7 - labrum; 8 - tibiotarsus III with claw and empodial appendage; 9 - dens.

ordinary setae and 7 short curved sensilla, dorsoexternal microsensillum, subapical organite present; apical vesicle absent, apical bulb present, ventral side with sensory rasp with 10 modified, trumpet-setae (Figs 1.2 & 1.3).

Postantennal organ (Fig. 1.4) about 0.85 times of ocellus B, ameboid with four lobes. Ocelli 5+5. Buccal cone rather short. Mandible present, maxillae (Fig. 1.5) without lamellae. Fulcrum with postero-external processus (EPP) four times shorter than internal postero-internal (IPP) (EPP and IPP sensu Deharveng 1981, Bedos & Deharveng 1990). Labral chaetotaxy: 44 (Fig. 1.6), prelabral setae invisible. Labium (per half) with four papillate setae and setae: A, B, C, D, F (macrochaeta), f and G present (Fig. 1.7).

Dorsal chaetotaxy as in Fig. 1.1 with short ordinary setae, very weakly denticulated (especially on the three last terga), with slightly differenciated sensory setae s. Their formula per half tergum: 022/21111. Microsensilla present on thoracic tergum II and III. Head without setae a0, d4, sd1 and sd2, seta c3 present. Thoracic tergum I with 4+4 setae, thoracic terga II and III with seta m1 and m3. Abdominal terga I-IV with seta s = p4. Thoracic sterna without setae. Ventral tube with 3+3 setae, abdominal sternum I with 1+1 setae, abdominal sternum II with 3+3 setae, abdominal sternum III with 3+3 setae.

Furca well developed, dens with 5 setae (Fig. 1.8). Mucro with two lobes and apex slightly hooked, as long as the dentes. Tenaculum with 3+3 teeth. Each anal valve with three setae hr. Anal spines absent.

Tibiotarsi I, II and III with 16, 16 and 15 setae, respectively. Whorl T (sensu Deharveng 1983, Lawrence 1977) without seta T3, whorl A with setae A1 and A7 longer and very slightly capitated, row B without setae B1 and B6, seta M present, seta B7 absent on tibiotarsus III. Femora I, II and III with 12, 11 and 10 setae, trochanters I, II and III with 5, 5 and 4 setae, coxae I, II and III with 3, 5 and 5 setae, subcoxae "2" I, II and III with 0, 2 and 2 setae, subcoxae "1" I, II and III with 1, 2 and 2 setae, respectively. Claw with inner tooth at 1/3 length of its inner edge, with pair of lateral teeth. Empodial appendage absent (Fig. 1.9).

Discussion

The new species is closest to *Superodontella conglobata* Jordana & Arbea, 1991 and *S. gisini* (Gama, 1961). All these species posses seta m1 on thoracic tergum II and III, five subegal setae on the dens, without anal spines. *S. conglobata* and *S. gisini* have also setae m3 and m4 on thoracic terga II and III, while *S. euro* n. sp. posses only seta m3. *S. conglobata* and the new species have the same type of setae on labium (macro- and mesochaetae, macro- and microchaetae in *S. gisini*), but in *S. conglobata* seta E is present, seta C absent, and in S. euro n. sp. seta E absent and seta D present, the same number of sensilla on antennal segment IV (7), but the sensilla of *S. euro* n. sp. are shorter and larger than in *S. conglobata*. The new species differs also from *S. conglobata* in the number of setae on antennal segment III (10 in the new species and 13 in *S. conglobata*). *S. conglobata* has only acuminate setae on the tibiotarsi, while *S. gisini* and *S. euro* n. sp. possess weakly capitated setae (1, 2, 2 in *S. gisini* and 2, 2, 2 in *S. euro* n. sp.).

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References

Bedos, A. & L. Deharveng, 1990. - New species of *Superodontella* Stach (Collembola: Odontellidae) from Thailand. - Tidsskr. ent. 133: 17-26.

Deharveng, L. 1981. - La famille des Odontellidae: phylogénèse et taxonomie. - Trav. Lab. Ecobiol. Arthropodes Edaphiques 1(1): 1-7.

Deharveng, L., 1983. - Morphologie évolutive des Collemboles Neanurinae en particulier de la lignée Neanurienne. - Trav. Lab. Ecobiol. Arthropodes Edaphiques 4(2): 1-63.

Lawrence, P. N., 1977. - Studies on the tibiotarsal chaetotaxy of Collembola. Syst. Ent. 2: 313-317.